

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an implementation of the invention and, together with the description, serve to explain the advantages and principles of the invention. In the drawings,

Fig. 1 depicts a block diagram of a data processing system with which embodiments of the present invention may be implemented;

Fig. 2 depicts a block diagram of a data structure with which embodiments of the present invention may be implemented;

Fig. 3 depicts a block diagram of a client-server based data processing system with which embodiments of the present invention may be implemented;

Fig. 4 depicts a flow diagram illustrating the steps of providing resources adapted to a user environment, in accordance with methods, systems, and articles of manufacture consistent with the present invention;

Fig. 5a depicts a flow diagram illustrating the steps of obtaining resource data, in accordance with another embodiment consistent with the present invention;

Fig. 5b depicts a flow diagram illustrating the steps of obtaining resource data, in accordance with another embodiment consistent with the present invention;

Fig. 5c depicts a flow diagram illustrating the steps of obtaining resource data, in accordance with another embodiment consistent with the present invention;

Fig. 6 depicts a data processing system with which embodiments of the present invention may be implemented, and depicting interaction with a client;

Fig. 7a depicts a flow diagram illustrating the steps of providing resources to a client, in accordance with another embodiment consistent with the present invention;

Fig. 7b depicts a flow diagram illustrating the steps of receiving resource data from a client, in accordance with another embodiment consistent with the present invention;

Fig. 8 depicts a time sequence of processing steps for a method for providing resources adapted to a user environment, in accordance with another embodiment consistent with the present invention;

Fig. 9 depicts a time sequence of processing steps for a method for providing resources adapted to a user environment, in accordance with an alternative embodiment consistent with the present invention;

Fig. 10 depicts a time sequence of processing steps a method for providing resources adapted to a user environment, in accordance with an alternative embodiment consistent with the present invention; and

Fig. 11 depicts a time sequence of processing steps a method for providing resources adapted to a user environment, in accordance with an alternative embodiment consistent with the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

Reference will now be made in detail to an implementation consistent with the present invention as illustrated in the accompanying drawings. Wherever possible, the same reference numbers will be used throughout the drawings and the following description to refer to the same or like parts.

Fig. 1 depicts a block diagram of a data processing system 100 suitable for practicing methods and implementing systems consistent with the present invention. The data processing system 100 comprises a central processing unit (CPU) 110, an input output I/O unit 120, a memory 130, a secondary storage device 140, and a video display 150. The data processing system 100 may further comprise standard input devices such as a keyboard 160, a mouse 170 or a speech processing means (not illustrated).

The memory 130 contains a resource program 180, that includes components for providing resources adapted to a user environment. More specifically, resource program 180 includes components for writing an application that is independent of a user environment and for providing information for presentation to a user that is localized to the user. Resource program 180 components include a user parameter component 181 for setting and storing a user parameter for selecting a user environment, such as a location or a user

language preference, based on receipt of a user input. Resource program 180 also includes an application component 182 for executing an application independent of the user parameter, including reading a resource identifier independent of the user parameter, for example, while generating a web page. Resource program 180 also includes a lookup component 183 for loading a lookup object that links the resource identifier and a resource data, wherein the resource data is dependent upon the user parameter (e.g., data presented to the user for display). Lookup component 183 calls a lookup function for obtaining resource data from the lookup object based on the read resource identifier. Resource program 180 and the components 181, 182, and 183 will be described in more detail below. Resource program 180 presents localized information to the user on the video display 150.

A lookup table 188 is located in memory 130. Lookup table 188 contains entries that are looked-up by lookup component 183 in order for the resource program 180 to link the resource identifier, which is independent of the user parameter, and the resource data, which is dependent on the user parameter. In the illustrated implementation, lookup table 188 is stored in memory 130 of the data processing device 100. The lookup table 188 can alternatively be stored in a memory connectable to the data processing device 100, such as a database.

The resource program 180 includes a data structure 200 having entries reflecting lookup object entries of the lookup table 188. Fig. 2 depicts a more detailed diagram of the data structure 200. The sample data structure 200 that is depicted in Fig. 2 illustrates a resource identifier 210 and a corresponding resource data 220.

Although aspects of one implementation are depicted as being stored in memory, one skilled in the art will appreciate that all or part of systems and methods consistent with the present invention may be stored on or read from other computer-readable media, such as secondary storage devices, like hard disks, floppy disks, and CD-ROM; a carrier wave received from a network such as the Internet; or other forms of ROM or RAM. Further, although specific components of data processing system 100 have been described, one skilled in the art will appreciate that a data processing system suitable for use with methods, systems,